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<110> E. I. du Pont de Nemours and Company

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<150> 60/092,844

<151> July 14, 1998

<160> 29

<170> Microsoft Office 97

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<211> 1221

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<213> Hordeum vulgare

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<213> Hordeum vulgare

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 Ser Ile Trp Val Ile Leu His Leu Tyr Pro Phe Leu Lys Gly Leu Met
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 Gly Lys Gln Asn Arg Thr Pro Thr Ile Val Ile Val Trp Ser Ile Leu
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 Pro Phe Val Ala Cys Asn Glu Cys Ala Phe Pro Ile Cys Arg Asp Cys
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 Glu Glu Asp Gly Val Asp Asp Leu Glu Asn Glu Phe Asn Trp Ser Asp
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 Ser Tyr Gly Arg Gly Ala Asp Leu Asp Gly Val Pro Gln Pro Phe His
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 210 215 220
 Ile Pro Pro Asp Gln His Ala Leu Val Pro Ser Phe Val Gly Gly Gly
 225 230 235 240
 Gly Lys Arg Ile His Pro Leu Pro Tyr Ala Asp Pro Asn Leu Pro Val
 245 250 255
 Gln Pro Arg Ser Met Asp Pro Ser Lys Asp Leu Ala Ala Tyr Gly Tyr
 260 265 270
 Gly Ser Val Ala Trp Lys Glu Arg Met Glu Ser Trp Lys Gln Lys Gln
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Glu Arg Met His Gln Thr Arg Asn Asp Gly Gly Gly Asp Asp Gly Asp
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 340 345 350
 His Pro Val Pro Asp Ala Phe Ala Leu Trp Leu Ile Ser Val Ile Cys
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 Phe Pro Ile Glu Arg Glu Thr Tyr Leu Asp Arg Leu Ser Leu Arg Phe
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 405 410 415
 Ser Thr Val Asp Pro Leu Lys Glu Pro Pro Leu Val Thr Ala Asn Thr
 420 425 430
 Val Leu Ser Ile Leu Ser Val Asp Tyr Pro Val Asp Lys Val Ser Cys
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 35 40 45
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 Ser Val Glu Ile Phe Met Ser Arg His Cys Pro Leu Trp Tyr Ala Tyr
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 Ala Val Cys Leu Leu Thr Gly Lys Phe Ile Ile Pro Thr Leu Asn Asn
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Val Asn Asn Gly Tyr Gly Ser Trp Gly Pro Leu Phe Gly Lys Leu Phe
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 Phe Pro Lys Trp Phe Pro Ile Glu Arg Glu Thr Tyr Leu Asp Arg Leu
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 Ser Leu Arg Phe Asp Lys Glu Gly Gln Pro Ser Gln Leu Ala Pro Ile
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 Asp Phe Phe Val Ser Thr Val Asp Pro Leu Lys Glu Pro Pro Leu Val
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 Thr Thr Asn Thr Val Leu Ser Ile Leu Ser Val Asp Tyr Pro Val Asp
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 Lys Val Ser Cys Tyr Val Ser Asp Asp Gly Ala Ala Met Leu Thr Phe
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 Glu Ala Leu Ser Glu Thr Ser Glu Phe Ala Lys Lys Trp Val Pro Phe
 405 410 415
 Cys Lys Arg Tyr Asn Ile Glu Pro Arg Ala Pro Glu Trp Tyr Phe Gln
 420 425 430
 Gln Lys Ile Asp Tyr Leu Lys Asp Lys Val Ala Ala Asn Phe Val Arg
 435 440 445
 Glu Arg Arg Ala Met Lys Arg Glu Tyr Glu Glu Phe Lys Val Arg Ile
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 Asn Ala Leu Val Ala Lys Ala Gln Lys Val Pro Glu Glu Gly Trp Thr
 465 470 475 480

Met Gln Asp Gly Thr Pro Trp Pro Gly Asn Asn Val Arg Asp His Pro
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 Gly Met Ile Gln Val Phe Leu Gly Gln Ser Gly Gly Leu Asp Cys Glu
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 Gly Asn Glu Leu Pro Arg Leu Val Tyr Val Ser Arg Glu Lys Arg Pro
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 Gly Tyr Asn His His Lys Lys Ala Gly Ala Met Asn Ala Leu Val Arg
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 Asp His Tyr Ile Asn Asn Ser Lys Ala Ile Lys Glu Ala Met Cys Phe
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 Met Met Asp Pro Leu Leu Gly Lys Lys Val Cys Tyr Val Gln Phe Pro
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 Gln Arg Phe Asp Gly Ile Asp Arg His Asp Arg Tyr Ala Asn Arg Asn
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 Pro Ile Tyr Val Gly Thr Gly Cys Val Phe Arg Arg Gln Ala Leu Tyr
 625 630 635 640
 Gly Tyr Asp Ala Pro Lys Thr Lys Lys Pro Pro Ser Arg Thr Cys Asn
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 675 680 685
 Phe Lys Lys Glu Glu Asn Gln Ser Pro Ala Tyr Ala Leu Gly Glu Ile
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 Asp Glu Ala Ala Pro Gly Ala Glu Asn Glu Lys Ala Gly Ile Val Asn
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 Gln Gln Lys Leu Glu Lys Lys Phe Gly Gln Ser Ser Val Phe Val Thr
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 740 745 750
 Ser Leu Leu Lys Glu Ala Ile His Val Ile Ser Cys Gly Tyr Glu Asp
 755 760 765
 Lys Thr Asp Trp Gly Lys Glu Ile Gly Trp Ile Tyr Gly Ser Val Thr
 770 775 780
 Glu Asp Ile Leu Thr Gly Phe Lys Met His Cys His Gly Trp Arg Ser
 785 790 795 800

Ile Tyr Cys Ile Pro Lys Arg Val Ala Phe Lys Gly Ser Ala Pro Leu
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 Asn Leu Ser Asp Arg Leu His Gln Val Leu Arg Trp Ala Leu Gly Ser
 820 825 830
 Ile Glu Ile Phe Phe Ser Asn His Cys Pro Leu Trp Tyr Gly Tyr Gly
 835 840 845
 Gly Gly Leu Lys Phe Leu Glu Arg Phe Ser Tyr Ile Asn Ser Ile Val
 850 855 860
 Tyr Pro Trp Thr Ser Ile Pro Leu Leu Ala Tyr Cys Thr Leu Pro Ala
 865 870 875 880
 Ile Cys Leu Leu Thr Gly Lys Phe Ile Thr Pro Glu Leu Asn Asn Val
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 Ala Ser Leu Trp Phe Met Ser Leu Phe Ile Cys Ile Phe Ala Thr Ser
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 930 935 940
 Val Phe Gln Gly Leu Leu Lys Val Ile Ala Gly Val Asp Thr Ser Phe
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 Thr Val Thr Ser Lys Gly Gly Asp Asp Glu Glu Phe Ser Glu Leu Tyr
 965 970 975
 Thr Phe Lys Trp Thr Thr Leu Leu Ile Pro Pro Thr Thr Leu Leu Leu
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 995 1000 1005
 Gly Tyr Glu Ser Trp Gly Pro Leu Phe Gly Lys Leu Phe Phe Ala Phe
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 Trp Val Ile Val His Leu Tyr Pro Phe Leu Lys Gly Leu Val Gly Arg
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 Gln Asn Arg Thr Pro Thr Ile Val Ile Val Trp Ser Ile Leu Leu Ala
 1045 1050 1055
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 <212> DNA
 <213> Oryza sativa

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 <213> Oryza sativa

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 Ala Ala Leu Trp Val Ser Phe Cys Arg Lys His Gly Val Glu Pro Arg
 65 70 75 80
 Asn Leu Glu Ala Tyr Phe Asn Ala Gly Glu Gly Gly Gly Gly Lys Ala
 85 90 95
 Lys Val Val Ala Arg Gly Ser Tyr Arg Gly Met Ala Trp Pro Glu Leu
 100 105 110
 Val Arg Asp Arg Arg Arg Val Arg Arg Glu Tyr Glu Glu Met Arg Leu
 115 120 125
 Arg Ile Asp Ala Leu Gln Ala Ala Asp Ala Arg Arg Arg Arg Arg Gly
 130 135 140
 Ala Ala Asp Asp His Ala Gly Val Val Gln Val Leu Ile Asp Phe Ala
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 Gly Ser Val Pro Gln Leu Gly Val Ala Asn Gly Ser Lys Leu Ile Asp
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Val Ala Ser Val Asp Val Cys Leu Pro Ala Leu Val Tyr Val Cys Arg
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Glu Lys Arg Arg Gly His Ala His His Arg Lys Ala Gly Ala Met Asn
 195 200 205

Ala Pro Phe Ile Leu Asp Leu Asp Cys Asp Tyr Tyr Val Asn Asn Ser
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Gln Ala Leu Arg Ala Gly Ile Cys Phe Met Ile Glu Arg Gly Gly Gly
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Gly Ala Ala Glu Asp Ala Gly Ala Val Ala Phe Val Gln Phe Pro Gln
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Arg Val Asp Gly Val Asp Pro Gly Asp Arg Tyr Ala Asn His Asn Arg
 260 265 270

Val Leu Phe Asp Cys Thr Glu Leu Gly Leu Asp Gly Leu Gln Gly Pro
 275 280 285

Ile Tyr Val Gly Thr Gly Cys Leu Phe Arg Arg Val Ala Leu Tyr Ser
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Val Asp Leu Pro Arg Trp Arg Pro Arg Arg Ser Leu Gly Cys Arg Leu
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Leu Ser Gly Pro Arg
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 <213> Glycine max

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 <212> PRT
 <213> Glycine max

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 Asp Gly Gln Val Cys Glu Ile Cys Gly Asp Gly Val Gly Leu Thr Val
 35 40 45
 Asp Gly Asp Leu Phe Val Ala Cys Asn Glu Cys Gly Phe Pro Val Cys
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Arg	Pro	Cys	Tyr	Glu	Tyr	Glu	Arg	Arg	Glu	Gly	Ser	His	Leu	Cys	Pro	65	70	75	80
Gln	Cys	Lys	Thr	Arg	Tyr	Lys	Arg	Leu	Lys	Gly	Ser	Pro	Arg	Val	Glu	85	90	95	
Gly	Asp	Asp	Asp	Glu	Glu	Asp	Val	Asp	Asp	Ile	Glu	His	Glu	Phe	Asn	100	105	110	
Ile	Asp	Glu	Gln	Lys	Asn	Lys	His	Gly	Gln	Val	Ala	Glu	Ala	Met	Leu	115	120	125	
His	Gly	Arg	Met	Ser	Tyr	Gly	Arg	Gly	Pro	Glu	Asp	Asp	Asp	Asn	Ser	130	135	140	
Gln	Phe	Pro	Thr	Pro	Val	Ile	Ala	Gly	Gly	Arg	Ser	Arg	Pro	Val	Ser	145	150	155	160
Gly	Glu	Phe	Pro	Ile	Ser	Ser	Asn	Ala	Tyr	Gly	Asp	Gln	Met	Leu	Ser	165	170	175	
Ser	Ser	Leu	His	Lys	Arg	Val	His	Pro	Tyr	Pro	Val	Ser	Glu	Pro	Gly	180	185	190	
Ser	Ala	Arg	Trp	Asp	Glu	Lys	Lys	Xaa	Asp	Gly	Trp	Lys	Asp	Arg	Met	195	200	205	
Asp	Asp	Trp	Lys	Leu	Gln	Gln	Gly	Asn	Leu	Gly	Pro	Glu	Pro	Asp	Glu	210	215	220	
Asp	Pro	Asp	Ala	Ala	Met	Leu	Asp	Glu	Ala	Arg	Gln	Pro	Leu	Ser	Arg	225	230	235	240
Lys	Val	Pro	Ile	Ala	Ser	Ser	Lys	Ile	Asn	Pro	Tyr	Arg	Met	Val	Ile	245	250	255	
Val	Ala	Arg	Leu	Val	Ile	Leu	Ala	Phe	Phe	Leu	Arg	Tyr	Arg	Leu	Met	260	265	270	
Asn	Pro	Val	His	Asp	Ala	Leu	Gly	Leu	Trp	Leu	Thr	Ser	Ile	Ile	Cys	275	280	285	
Glu	Ile	Trp	Phe	Ala	Phe	Ser	Trp	Ile	Leu	Asp	Gln	Phe	Pro	Lys	Trp	290	295	300	
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Glu	Arg	Glu	Gly	Glu	Pro	Asn	Met	Leu	Ala	Pro	Val	Asp	Val	Phe	Val	325	330	335	
Ser	Thr	Val	Asp	Pro	Met	Lys	Glu	Pro	Pro	Leu	Val	Thr	Ala	Asn	Thr	340	345	350	
Val	Leu	Ser	Ile	Leu	Ala	Met	Asp	Tyr	Pro	Val	Asp	Lys	Ile	Ser	Cys	355	360	365	
Tyr	Ile	Ser	Asp	Asp	Gly	Ala	Ser	Met	Cys	Thr	Phe	Glu	Ser	Leu	Ser	370	375	380	

Glu Thr Ala Glu Phe Ala Arg Lys Trp Val Pro Phe Cys Lys Lys Phe
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 Ser Ile Glu Pro Arg Ala Pro Glu Met Tyr Phe Ser Glu Lys Ile Asp
 405 410 415
 Tyr Leu Lys Asp Lys Val Gln Pro Thr Phe Val Lys Glu Arg Arg Ala
 420 425 430
 Met Lys Arg Glu Tyr Glu Glu Phe Lys Val Arg Ile Asn Ala Leu Val
 435 440 445
 Ala Lys Ala Gln Lys Val Pro Gln Gly Gly Trp Ile Met Gln Asp Gly
 450 455 460
 Thr Pro Trp Pro Gly Asn Asn Thr Lys Asp His Pro Gly Met Ile Gln
 465 470 475 480
 Val Phe Leu Gly Ser Ser Gly Gly Leu Asp Thr Glu Gly Asn Gln Leu
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 Pro Arg Leu Val Tyr Val Ser Arg Glu Lys Arg Pro Gly Phe Gln His
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 580 585 590
 Asp Ile Asn Met Lys Gly Leu Asp Gly Ile Gln Gly Pro Val Tyr Val
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 Cys Phe Gly Ser Arg Lys Lys Tyr Lys Glu Lys Asn Asp Ala Asn Gly
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 Glu Ala Ala Ser Leu Lys Gly Met Asp Asp Asp Lys Glu Val Leu Met
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 Ser Gln Met Asn Phe Glu Lys Lys Phe Gly Gln Ser Ser Ile Phe Val
 675 680 685
 Thr Ser Thr Leu Met Glu Glu Gly Gly Val Pro Pro Ser Ser Ser Pro
 690 695 700

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Asp	Lys	Thr	Glu	Trp	Gly	Leu	Glu	Leu	Gly	Trp	Ile	Tyr	Gly	Ser	Ile
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Thr	Glu	Asp	Ile	Leu	Thr	Gly	Phe	Lys	Met	His	Cys	Arg	Gly	Trp	Arg
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Ile	Asn	Leu	Ser	Asp	Arg	Leu	Asn	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly
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Ser	Ile	Glu	Ile	Phe	Phe	Ser	His	His	Cys	Pro	Leu	Trp	Tyr	Gly	Phe
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Lys	Glu	Lys	Lys	Leu	Lys	Trp	Leu	Glu	Arg	Phe	Ala	Tyr	Ala	Asn	Thr
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Thr	Val	Tyr	Pro	Phe	Thr	Ser	Ile	Pro	Leu	Val	Ala	Tyr	Cys	Ile	Leu
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Pro	Ala	Val	Cys	Leu	Leu	Thr	Asp	Lys	Phe	Ile	Met	Pro	Pro	Ile	Ser
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Asn	Asn	Gly	Tyr	Gln	Ser	Trp	Gly	Pro	Leu	Phe	Gly	Lys	Leu	Phe	Phe
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Ser	Phe	Trp	Val	Ile	Val	His	Leu	Tyr	Pro	Phe	Leu	Lys	Gly	Leu	Met
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Gly	Arg	Gln	Asn	Arg	Thr	Pro	Thr	Ile	Val	Val	Ile	Trp	Ser	Val	Leu
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 Pro Arg Leu Val Tyr Val Ser Arg Glu Lys Arg Pro Gly Phe Gln His
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 His Lys Lys Ala Gly Ala Met Asn Ala Leu Ile Arg Val Ser Ala Val
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 115 120 125
 Gly Ile Asp Leu His Asp Arg Tyr Ala Asn Arg Asn Ile Val Phe Phe
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 Asp Ile Asn Met Lys Gly Gln Asp Gly Val Gln Gly Pro Val Tyr Val
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 Gly Thr Gly Cys Cys Phe Asn Arg Gln Ala Leu Tyr Gly Tyr Asp Pro
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 195 200 205
 Lys Lys Lys Ala Met Gly Arg Thr Glu Ser Thr Val Pro Ile Phe Asn
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 Met Glu Asp Ile Glu Glu Gly Val Glu Gly Tyr Asp Asp Glu Arg Thr
 225 230 235 240
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 Val Phe Ile Ala Ala Thr Phe Met Glu Gln Gly Gly Ile Pro Pro Ser
 260 265 270
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 275 280 285
 Gly Tyr Glu Asp Lys Thr Glu Trp Gly Lys Glu Ile Gly Trp Ile Tyr
 290 295 300
 Gly Ser Val Thr Glu Asp Ile Leu Thr Gly Phe Lys Met His Ala Arg
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 Gly Trp Ile Ser Ile Tyr Cys Met Pro Pro Arg Pro Ala Phe Lys Gly
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 Ser Ala Pro Ile Asn Leu Ser Asp Arg Leu Asn Gln Val Leu Arg Trp
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Ala Leu Gly Ser Ile Glu Ile Phe Leu Ser Arg His Cys Pro Leu Trp
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 Ser Val Leu Leu Ala Ser Ile Phe Ser Leu Leu Trp Val Arg Ile Asp
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 Asn Cys
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Pro Lys Trp Tyr Pro Ile Gln Arg Glu Thr Tyr Leu Asp Arg Leu Ser
 35 40 45
 Leu Arg Tyr Glu Lys Glu Gly Lys Pro Ser Glu Leu Ser Ser Val Asp
 50 55 60
 Val Phe Val Ser Thr Val Asp Pro Met Lys Glu Pro Pro Leu Ile Thr
 65 70 75 80
 Ala Asn Thr Val Leu Ser Ile Leu Ala Val Asp Tyr Pro Val Asp Lys
 85 90 95
 Val Ala Cys Tyr Val Ser Asp Asp Gly Ala Ala Met Leu Thr Phe Glu
 100 105 110
 Ala Leu Ser Glu Thr Ser Glu Phe Ala Arg Arg Trp Val Pro Phe Cys
 115 120 125
 Lys Lys Tyr Asn Ile Glu Pro Arg Ala Pro Glu Trp Tyr Phe Gly Gln
 130 135 140
 Lys Met Asp Tyr Leu Lys Asn Lys Val His Pro Ala Phe Val Arg Glu
 145 150 155 160
 Arg Arg Ala Met Lys Arg Asp Tyr Glu Glu Phe Lys Val Arg Ile Asn
 165 170 175
 Ser Leu Val Ala Thr Ala Gln Lys Val Pro Glu Asp Gly Trp Thr Met
 180 185 190
 Gln Asp Gly Thr Pro Trp Pro Gly Asn Asn Val Arg Asp His Pro Gly
 195 200 205
 Met Ile Gln Val Phe Leu Gly Gln Asp Gly Val Arg Asp Val Glu Gly
 210 215 220
 Asn Glu Leu Pro Arg Leu Val Tyr Val Ser Arg Glu Lys Arg Pro Gly
 225 230 235 240
 Phe Asp His His Lys Lys Ala Gly Ala Met Asn Ala Leu Val Arg Ala
 245 250 255
 Ser Ala Ile Ile Thr Asn Ala Pro Tyr Leu Leu Asn Val Asp Cys Asp
 260 265 270
 His Tyr Ile Asn Asn Ser Lys Ala Leu Arg Glu Ala Met Cys Phe Met
 275 280 285
 Met Asp Pro Gln Leu Gly Lys Lys Val Cys Tyr Val Gln Phe Pro Gln
 290 295 300
 Arg Phe Asp Gly Ile Asp Arg His Asp Arg Tyr Ser Asn Arg Asn Val
 305 310 315 320
 Val Phe Phe Asp Ile Asn Met Lys Gly Leu Asp Gly Ile Gln Gly Pro
 325 330 335
 Ile Tyr Val Gly Thr Gly Cys Val Phe Arg Arg Tyr Ala Leu Tyr Gly
 340 345 350

Tyr	Asp	Ala	Pro	Ala	Lys	Lys	Lys	Pro	Pro	Ser	Lys	Thr	Cys	Asn	Cys	355	360	365	
Trp	Pro	Lys	Trp	Cys	Cys	Leu	Cys	Cys	Gly	Ser	Arg	Lys	Lys	Lys	Asn	370	375	380	
Ala	Asn	Ser	Lys	Lys	Glu	Lys	Lys	Arg	Lys	Val	Lys	His	Ser	Glu	Ala	385	390	395	400
Ser	Lys	Gln	Ile	His	Ala	Leu	Glu	Asn	Ile	Glu	Ala	Gly	Asn	Glu	Gly	405	410	415	
Thr	Asn	Asn	Glu	Lys	Thr	Ser	Asn	Leu	Thr	Gln	Thr	Lys	Leu	Glu	Lys	420	425	430	
Arg	Phe	Gly	Gln	Ser	Pro	Val	Phe	Val	Ala	Ser	Thr	Leu	Leu	Asp	Asp	435	440	445	
Gly	Gly	Val	Pro	His	Gly	Val	Ser	Pro	Ala	Ser	Leu	Leu	Lys	Glu	Ala	450	455	460	
Ile	Gln	Val	Ile	Ser	Cys	Gly	Tyr	Glu	Asp	Lys	Thr	Glu	Trp	Gly	Lys	465	470	475	480
Glu	Val	Gly	Trp	Ile	Tyr	Gly	Ser	Val	Thr	Glu	Asp	Ile	Leu	Thr	Gly	485	490	495	
Phe	Lys	Met	His	Cys	His	Gly	Trp	Arg	Ser	Val	Tyr	Cys	Ile	Pro	Lys	500	505	510	
Arg	Pro	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Ile	Asn	Leu	Ser	Asp	Arg	Leu	515	520	525	
His	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly	Ser	Val	Glu	Ile	Phe	Phe	Ser	530	535	540	
Arg	His	Cys	Pro	Ile	Trp	Tyr	Gly	Tyr	Gly	Gly	Gly	Leu	Lys	Leu	Leu	545	550	555	560
Glu	Arg	Phe	Ser	Tyr	Ile	Asn	Ser	Val	Val	Tyr	Pro	Trp	Thr	Ser	Leu	565	570	575	
Pro	Leu	Leu	Val	Tyr	Cys	Thr	Leu	Pro	Ala	Ile	Cys	Leu	Leu	Thr	Gly	580	585	590	
Lys	Phe	Ile	Val	Pro	Glu	Ile	Ser	Asn	Tyr	Ala	Ser	Leu	Val	Phe	Met	595	600	605	
Ala	Leu	Phe	Ile	Ser	Ile	Ala	Ala	Thr	Gly	Ile	Leu	Glu	Met	Gln	Trp	610	615	620	
Gly	Gly	Val	Ser	Ile	Asp	Asp	Trp	Trp	Arg	Asn	Glu	Gln	Phe	Trp	Val	625	630	635	640
Ile	Gly	Gly	Val	Ser	Ser	His	Leu	Phe	Ala	Leu	Phe	Gln	Gly	Leu	Leu	645	650	655	
Lys	Val	Leu	Ala	Gly	Val	Asn	Thr	Asn	Phe	Thr	Val	Thr	Ser	Lys	Ala	660	665	670	

Ala Asp Asp Gly Glu Phe Ser Glu Leu Tyr Ile Phe Lys Trp Thr Ser
675 680 685

Leu Leu Ile Pro Pro Met Thr Leu Leu Ile Met Asn Ile Val Gly Val
690 695 700

Val Val Gly Ile Ser Asp Ala Ile Asn Asn Gly Tyr Asp Ser Trp Gly
705 710 715 720

Pro Leu Phe Gly Arg Leu Phe Phe Ala Leu Trp Val Ile Leu His Leu
725 730 735

Tyr Pro Phe Leu Lys Gly Leu Leu Gly Lys Gln Asp Arg Met Pro Thr
740 745 750

Ile Ile Leu Val Trp Ser Ile Leu Leu Ala Ser Ile Leu Thr Leu Met
755 760 765

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<213> Triticum aestivum

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<222> (271)

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 Gly Phe Leu Ala Ser Leu Cys Xaa Gly Lys Lys Lys Ala Ser Lys Ser
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 Ser Val Pro Val Phe Asn Leu Glu Asp Ile Glu Glu Gly Val Glu Gly
 115 120 125
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 145 150 155 160
 Glu Tyr Gly Gly Val Pro Gln Ser Ser Thr Pro Glu Ser Leu Leu Lys
 165 170 175
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 180 185 190
 Gly Thr Glu Ile Gly Trp Ile Tyr Gly Ser Val Thr Glu Asp Ile Leu
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 Thr Gly Phe Lys Met His Ala Arg Gly Trp Arg Ser Ile Tyr Cys Met
 210 215 220

Pro Lys Arg Pro Ala Phe Lys Gly Ser Ala Pro Ile Asn Leu Ser Asp
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 260 265 270
 Phe Leu Glu Arg Phe Ala Tyr Ile Asn Thr Thr Ile Tyr Pro Leu Thr
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 370 375 380
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 <213> Triticum aestivum

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ggtcacagcg aacactgtcc ttccatcct ttctgtggat tatccgggtg agaaggctct 720
ctgctatgtt tctgatgatg gtgctgcaat gcttacgttt gaagcattgt ctgaaacatc 780
tgaatttgca aagaaatggg ttcccttcag caaaaagtgt aatatcgagc ctctgtctcc 840
tgagtgttac ttccaacaga agatagacta cctgaaagac aagggttgctg cttcatttgt 900
tagggagagg agggcgatga agagagaata cgaggaattc aaggtaagga tcaatgcctt 960
ggttgcaaaa gcccaaaagg ttcttgagga aggatggaca atgcaagatg gaagcccctg 1020
gcctggaaa                                     1029

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<210> 22

<211> 340

<212> PRT

<213> *Triticum aestivum*

<400> 22

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Pro Leu Leu Thr Asn Gly Gln Met Val Asp Asp Ile Pro Pro Glu Gln
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His Ala Leu Val Pro Ser Tyr Met Ser Gly Gly Gly Gly Gly Gly Lys
      20              25              30

Arg Ile His Pro Leu Pro Phe Ala Asp Pro Asn Leu Pro Val Gln Pro
      35              40              45

Arg Ser Met Asp Pro Ser Lys Asp Leu Ala Ala Tyr Gly Tyr Gly Ser
      50              55              60

Val Ala Trp Lys Glu Arg Met Glu Gly Trp Lys Gln Lys Gln Glu Arg
      65              70              75              80

Leu Gln His Val Arg Ser Glu Gly Gly Gly Asp Trp Asp Gly Asp Asp
      85              90              95

Ala Asp Leu Pro Leu Met Asp Glu Ala Arg Gln Pro Leu Ser Arg Lys
      100             105             110

Val Pro Ile Ser Ser Ser Arg Ile Asn Pro Tyr Arg Met Ile Ile Val
      115             120             125

Ile Arg Leu Val Val Leu Gly Phe Phe Phe His Tyr Arg Val Met His
      130             135             140

Pro Ala Lys Asp Ala Phe Ala Leu Trp Leu Ile Ser Val Ile Cys Glu
      145             150             155             160

Ile Trp Phe Ala Met Ser Cys Ile Leu Asp Gln Phe Pro Lys Trp Phe
      165             170             175

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Pro Ile Glu Arg Glu Thr Tyr Leu Asp Arg Leu Ser Leu Arg Phe Asp
 180 185 190
 Lys Glu Gly Gln Pro Ser Gln Leu Ala Pro Ile Asp Phe Phe Val Ser
 195 200 205
 Thr Val Asp Pro Thr Lys Glu Pro Pro Leu Val Thr Ala Asn Thr Val
 210 215 220
 Leu Ser Ile Leu Ser Val Asp Tyr Pro Val Glu Lys Val Ser Cys Tyr
 225 230 235 240
 Val Ser Asp Asp Gly Ala Ala Met Leu Thr Phe Glu Ala Leu Ser Glu
 245 250 255
 Thr Ser Glu Phe Ala Lys Lys Trp Val Pro Phe Ser Lys Lys Phe Asn
 260 265 270
 Ile Glu Pro Arg Ala Pro Glu Trp Tyr Phe Gln Gln Lys Ile Asp Tyr
 275 280 285
 Leu Lys Asp Lys Val Ala Ala Ser Phe Val Arg Glu Arg Arg Ala Met
 290 295 300
 Lys Arg Glu Tyr Glu Glu Phe Lys Val Arg Ile Asn Ala Leu Val Ala
 305 310 315 320
 Lys Ala Gln Lys Val Pro Glu Glu Gly Trp Thr Met Gln Asp Gly Ser
 325 330 335
 Pro Trp Pro Gly
 340

<210> 23
 <211> 1081
 <212> PRT
 <213> Arabidopsis thaliana

<400> 23
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 Leu Val Arg Ile Arg His Glu Ser Asp Gly Gly Thr Lys Pro Leu Lys
 20 25 30
 Asn Met Asn Gly Gln Ile Cys Gln Ile Cys Gly Asp Asp Val Gly Leu
 35 40 45
 Ala Glu Thr Gly Asp Val Phe Val Ala Cys Asn Glu Cys Ala Phe Pro
 50 55 60
 Val Cys Arg Pro Cys Tyr Glu Tyr Glu Arg Lys Asp Gly Thr Gln Cys
 65 70 75 80
 Cys Pro Gln Cys Lys Thr Arg Phe Arg Arg His Arg Gly Ser Pro Arg
 85 90 95
 Val Glu Gly Asp Glu Asp Glu Asp Asp Val Asp Asp Ile Glu Asn Glu
 100 105 110

Phe Asn Tyr Ala Gln Gly Ala Asn Lys Ala Arg His Gln Arg His Gly
 115 120 125
 Glu Glu Phe Ser Ser Ser Ser Arg His Glu Ser Gln Pro Ile Pro Leu
 130 135 140
 Leu Thr His Gly His Thr Val Ser Gly Glu Ile Arg Thr Pro Asp Thr
 145 150 155 160
 Gln Ser Val Arg Thr Thr Ser Gly Pro Leu Gly Pro Ser Asp Arg Asn
 165 170 175
 Ala Ile Ser Ser Pro Tyr Ile Asp Pro Arg Gln Pro Val Pro Val Arg
 180 185 190
 Ile Val Asp Pro Ser Lys Asp Leu Asn Ser Tyr Gly Leu Gly Asn Val
 195 200 205
 Asp Trp Lys Glu Arg Val Glu Gly Trp Lys Leu Lys Gln Glu Lys Asn
 210 215 220
 Met Leu Gln Met Thr Gly Lys Tyr His Glu Gly Lys Gly Gly Glu Ile
 225 230 235 240
 Glu Gly Thr Gly Ser Asn Gly Glu Glu Leu Gln Met Ala Asp Asp Thr
 245 250 255
 Arg Leu Pro Met Ser Arg Val Val Pro Ile Pro Ser Ser Arg Leu Thr
 260 265 270
 Pro Tyr Arg Val Val Ile Ile Leu Arg Leu Ile Ile Leu Cys Phe Phe
 275 280 285
 Leu Gln Tyr Arg Thr Thr His Pro Val Lys Asn Ala Tyr Pro Leu Trp
 290 295 300
 Leu Thr Ser Val Ile Cys Glu Ile Trp Phe Ala Phe Ser Trp Leu Leu
 305 310 315 320
 Asp Gln Phe Pro Lys Trp Tyr Pro Ile Asn Arg Glu Thr Tyr Leu Asp
 325 330 335
 Arg Leu Ala Ile Arg Tyr Asp Arg Asp Gly Glu Pro Ser Gln Leu Val
 340 345 350
 Pro Val Asp Val Phe Val Ser Thr Val Asp Pro Leu Lys Glu Pro Pro
 355 360 365
 Leu Val Thr Ala Asn Thr Val Leu Ser Ile Leu Ser Val Asp Tyr Pro
 370 375 380
 Val Asp Lys Val Ala Cys Tyr Val Ser Asp Asp Gly Ser Ala Met Leu
 385 390 395 400
 Thr Phe Glu Ser Leu Ser Glu Thr Ala Glu Phe Ala Lys Lys Trp Val
 405 410 415
 Pro Phe Cys Lys Lys Phe Asn Ile Glu Pro Arg Ala Pro Glu Phe Tyr
 420 425 430

Phe Ala Gln Lys Ile Asp Tyr Leu Lys Asp Lys Ile Gln Pro Ser Phe
 435 440 445
 Val Lys Glu Arg Arg Ala Met Lys Arg Glu Tyr Glu Glu Phe Lys Val
 450 455 460
 Arg Ile Asn Ala Leu Val Ala Lys Ala Gln Lys Ile Pro Glu Glu Gly
 465 470 475 480
 Trp Thr Met Gln Asp Gly Thr Pro Trp Pro Gly Asn Asn Thr Arg Asp
 485 490 495
 His Pro Gly Met Ile Gln Val Phe Leu Gly His Ser Gly Gly Leu Asp
 500 505 510
 Thr Asp Gly Asn Glu Leu Pro Arg Leu Ile Tyr Val Ser Arg Glu Lys
 515 520 525
 Arg Pro Gly Phe Gln His His Lys Lys Ala Gly Ala Met Asn Ala Leu
 530 535 540
 Ile Arg Val Ser Ala Val Leu Thr Asn Gly Ala Tyr Leu Leu Asn Val
 545 550 555 560
 Asp Cys Asp His Tyr Phe Asn Asn Ser Lys Ala Ile Lys Glu Ala Met
 565 570 575
 Cys Phe Met Met Asp Pro Ala Ile Gly Lys Lys Cys Cys Tyr Val Gln
 580 585 590
 Phe Pro Gln Arg Phe Asp Gly Ile Asp Leu His Asp Arg Tyr Ala Asn
 595 600 605
 Arg Asn Ile Val Phe Phe Asp Ile Asn Met Lys Gly Leu Asp Gly Ile
 610 615 620
 Gln Gly Pro Val Tyr Val Gly Thr Gly Cys Cys Phe Asn Arg Gln Ala
 625 630 635 640
 Leu Tyr Gly Tyr Asp Pro Val Leu Thr Glu Glu Asp Leu Glu Pro Asn
 645 650 655
 Ile Ile Val Lys Ser Cys Cys Gly Ser Arg Lys Lys Gly Lys Ser Ser
 660 665 670
 Lys Lys Tyr Asn Tyr Glu Lys Arg Arg Gly Ile Asn Arg Ser Asp Ser
 675 680 685
 Asn Ala Pro Leu Phe Asn Met Glu Asp Ile Asp Glu Gly Phe Glu Gly
 690 695 700
 Tyr Asp Asp Glu Arg Ser Ile Leu Met Ser Gln Arg Ser Val Glu Lys
 705 710 715 720
 Arg Phe Gly Gln Ser Pro Val Phe Ile Ala Ala Thr Phe Met Glu Gln
 725 730 735
 Gly Gly Ile Pro Pro Thr Thr Asn Pro Ala Thr Leu Leu Lys Glu Ala
 740 745 750

Ile His Val Ile Ser Cys Gly Tyr Glu Asp Lys Thr Glu Trp Gly Lys
 755 760 765
 Glu Ile Gly Trp Ile Tyr Gly Ser Val Thr Glu Asp Ile Leu Thr Gly
 770 775 780
 Phe Lys Met His Ala Arg Gly Trp Ile Ser Ile Tyr Cys Asn Pro Pro
 785 790 795 800
 Arg Pro Ala Phe Lys Gly Ser Ala Pro Ile Asn Leu Ser Asp Arg Leu
 805 810 815
 Asn Gln Val Leu Arg Trp Ala Leu Gly Ser Ile Glu Ile Leu Leu Ser
 820 825 830
 Arg His Cys Pro Ile Trp Tyr Gly Tyr His Gly Arg Leu Arg Leu Leu
 835 840 845
 Glu Arg Ile Ala Tyr Ile Asn Thr Ile Val Tyr Pro Ile Thr Ser Ile
 850 855 860
 Pro Leu Ile Ala Tyr Cys Ile Leu Pro Ala Phe Cys Leu Ile Thr Asp
 865 870 875 880
 Arg Phe Ile Ile Pro Glu Ile Ser Asn Tyr Ala Ser Ile Trp Phe Ile
 885 890 895
 Leu Leu Phe Ile Ser Ile Ala Val Thr Gly Ile Leu Glu Leu Arg Trp
 900 905 910
 Ser Gly Val Ser Ile Glu Asp Trp Trp Arg Asn Glu Gln Phe Trp Val
 915 920 925
 Ile Gly Gly Thr Ser Ala His Leu Phe Ala Val Phe Gln Gly Leu Leu
 930 935 940
 Lys Val Leu Ala Gly Ile Asp Thr Asn Phe Thr Val Thr Ser Lys Ala
 945 950 955 960
 Thr Asp Glu Asp Gly Asp Phe Ala Glu Leu Tyr Ile Phe Lys Trp Thr
 965 970 975
 Ala Leu Leu Ile Pro Pro Thr Thr Val Leu Leu Val Asn Leu Ile Gly
 980 985 990
 Ile Val Ala Gly Val Ser Tyr Ala Val Asn Ser Gly Tyr Gln Ser Trp
 995 1000 1005
 Gly Pro Leu Phe Gly Lys Leu Phe Phe Ala Leu Trp Val Ile Ala His
 1010 1015 1020
 Leu Tyr Pro Phe Leu Lys Gly Leu Leu Gly Arg Gln Asn Arg Thr Pro
 1025 1030 1035 1040
 Thr Ile Val Ile Val Trp Ser Val Leu Leu Ala Ser Ile Phe Ser Leu
 1045 1050 1055
 Leu Trp Val Arg Ile Asn Pro Phe Val Asp Ala Asn Pro Asn Ala Asn
 1060 1065 1070

Asn Phe Asn Gly Lys Gly Gly Val Phe
1075 1080

<210> 24
<211> 1084
<212> PRT
<213> Arabidopsis thaliana

<400> 24

Met Asn Thr Gly Gly Arg Leu Ile Ala Gly Ser His Asn Arg Asn Glu
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Phe Val Leu Ile Asn Ala Asp Glu Ser Ala Arg Ile Arg Ser Val Gln
20 25 30
Glu Leu Ser Gly Gln Thr Cys Gln Ile Cys Gly Asp Glu Ile Glu Leu
35 40 45
Thr Val Ser Ser Glu Leu Phe Val Ala Cys Asn Glu Cys Ala Phe Pro
50 55 60
Val Cys Arg Pro Cys Tyr Glu Tyr Glu Arg Arg Glu Gly Asn Gln Ala
65 70 75 80
Cys Pro Gln Cys Lys Thr Arg Tyr Lys Arg Ile Lys Gly Ser Pro Arg
85 90 95
Val Asp Gly Asp Asp Glu Glu Glu Glu Asp Ile Asp Asp Leu Glu Tyr
100 105 110
Glu Phe Asp His Gly Met Asp Pro Glu His Ala Ala Glu Ala Ala Leu
115 120 125
Ser Ser Arg Leu Asn Thr Gly Arg Gly Gly Leu Asp Ser Ala Pro Pro
130 135 140
Gly Ser Gln Ile Pro Leu Leu Thr Tyr Cys Asp Glu Asp Ala Asp Met
145 150 155 160
Tyr Ser Asp Arg His Ala Leu Ile Val Pro Pro Ser Thr Gly Tyr Gly
165 170 175
Asn Arg Val Tyr Pro Ala Pro Phe Thr Asp Ser Ser Ala Pro Pro Gln
180 185 190
Ala Arg Ser Met Val Pro Gln Lys Asp Ile Ala Glu Tyr Gly Tyr Gly
195 200 205
Ser Val Ala Trp Lys Asp Arg Met Glu Val Trp Lys Arg Arg Gln Gly
210 215 220
Glu Lys Leu Gln Val Ile Lys His Glu Gly Gly Asn Asn Gly Arg Gly
225 230 235 240
Ser Asn Asp Asp Asp Glu Leu Asp Asp Pro Asp Met Pro Met Met Asp
245 250 255
Glu Gly Arg Gln Pro Leu Ser Arg Lys Leu Pro Ile Arg Ser Ser Arg
260 265 270

Ile	Asn	Pro	Tyr	Arg	Met	Leu	Ile	Leu	Cys	Arg	Leu	Ala	Ile	Leu	Gly
		275					280					285			
Leu	Phe	Phe	His	Tyr	Arg	Ile	Leu	His	Pro	Val	Asn	Asp	Ala	Tyr	Gly
	290					295					300				
Leu	Trp	Leu	Thr	Ser	Val	Ile	Cys	Glu	Ile	Trp	Phe	Ala	Val	Ser	Trp
305					310					315					320
Ile	Leu	Asp	Gln	Phe	Pro	Lys	Trp	Tyr	Pro	Ile	Glu	Arg	Glu	Thr	Tyr
			325					330						335	
Leu	Asp	Arg	Leu	Ser	Leu	Arg	Tyr	Glu	Lys	Glu	Gly	Lys	Pro	Ser	Gly
			340					345					350		
Leu	Ala	Pro	Val	Asp	Val	Phe	Val	Ser	Thr	Val	Asp	Pro	Leu	Lys	Glu
		355					360					365			
Pro	Pro	Leu	Ile	Thr	Ala	Asn	Thr	Val	Leu	Ser	Ile	Leu	Ala	Val	Asp
	370					375					380				
Tyr	Pro	Val	Asp	Lys	Val	Ala	Cys	Tyr	Val	Ser	Asp	Asp	Gly	Ala	Ala
385					390					395					400
Met	Leu	Thr	Phe	Glu	Ala	Leu	Ser	Asp	Thr	Ala	Glu	Phe	Ala	Arg	Lys
				405					410					415	
Trp	Val	Pro	Phe	Cys	Lys	Lys	Phe	Asn	Ile	Glu	Pro	Arg	Ala	Pro	Glu
			420					425					430		
Trp	Tyr	Phe	Ser	Gln	Lys	Met	Asp	Tyr	Leu	Lys	Asn	Lys	Val	His	Pro
		435					440					445			
Ala	Phe	Val	Arg	Glu	Arg	Arg	Ala	Met	Lys	Arg	Asp	Tyr	Glu	Glu	Phe
	450					455					460				
Lys	Val	Lys	Ile	Asn	Ala	Leu	Val	Ala	Thr	Ala	Gln	Lys	Val	Pro	Glu
465					470					475					480
Glu	Gly	Trp	Thr	Met	Gln	Asp	Gly	Thr	Pro	Trp	Pro	Gly	Asn	Asn	Val
				485					490					495	
Arg	Asp	His	Pro	Gly	Met	Ile	Gln	Val	Phe	Leu	Gly	His	Ser	Gly	Val
			500					505						510	
Arg	Asp	Thr	Asp	Gly	Asn	Glu	Leu	Pro	Arg	Leu	Val	Tyr	Val	Ser	Arg
		515					520					525			
Glu	Lys	Arg	Pro	Gly	Phe	Asp	His	His	Lys	Lys	Ala	Gly	Ala	Met	Asn
	530					535					540				
Ser	Leu	Ile	Arg	Val	Ser	Ala	Val	Leu	Ser	Asn	Ala	Pro	Tyr	Leu	Leu
545					550					555					560
Asn	Val	Asp	Cys	Asp	His	Tyr	Ile	Asn	Asn	Ser	Lys	Ala	Ile	Arg	Glu
				565					570					575	
Ser	Met	Cys	Phe	Met	Met	Asp	Pro	Gln	Ser	Gly	Lys	Lys	Val	Cys	Tyr
			580					585					590		

Val	Gln	Phe	Pro	Gln	Arg	Phe	Asp	Gly	Ile	Asp	Arg	His	Asp	Arg	Tyr			
		595					600					605						
Ser	Asn	Arg	Asn	Val	Val	Phe	Phe	Asp	Ile	Asn	Met	Lys	Gly	Leu	Asp			
	610					615					620							
Gly	Ile	Gln	Gly	Pro	Ile	Tyr	Val	Gly	Thr	Gly	Cys	Val	Phe	Arg	Arg			
625					630					635					640			
Gln	Ala	Leu	Tyr	Gly	Phe	Asp	Ala	Pro	Lys	Lys	Lys	Lys	Pro	Pro	Gly			
				645					650					655				
Lys	Thr	Cys	Asn	Cys	Trp	Pro	Lys	Trp	Cys	Cys	Leu	Cys	Cys	Gly	Leu			
			660					665					670					
Arg	Lys	Lys	Ser	Lys	Thr	Lys	Ala	Lys	Asp	Lys	Lys	Thr	Asn	Thr	Lys			
		675					680					685						
Glu	Thr	Ser	Lys	Gln	Ile	His	Ala	Leu	Glu	Asn	Val	Asp	Glu	Gly	Val			
	690					695					700							
Ile	Val	Pro	Val	Ser	Asn	Val	Glu	Lys	Arg	Ser	Glu	Ala	Thr	Gln	Leu			
705					710					715					720			
Lys	Leu	Glu	Lys	Lys	Phe	Gly	Gln	Ser	Pro	Val	Phe	Val	Ala	Ser	Ala			
				725					730					735				
Val	Leu	Gln	Asn	Gly	Gly	Val	Pro	Arg	Asn	Ala	Ser	Pro	Ala	Cys	Leu			
			740					745					750					
Leu	Arg	Glu	Ala	Ile	Gln	Val	Ile	Ser	Cys	Gly	Tyr	Glu	Asp	Lys	Thr			
		755					760					765						
Glu	Trp	Gly	Lys	Glu	Ile	Gly	Trp	Ile	Tyr	Gly	Ser	Val	Thr	Glu	Asp			
	770					775					780							
Ile	Leu	Thr	Gly	Phe	Lys	Met	His	Cys	His	Gly	Trp	Arg	Ser	Val	Tyr			
785					790					795					800			
Cys	Met	Pro	Lys	Arg	Ala	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Ile	Asn	Leu			
				805					810					815				
Ser	Asp	Arg	Leu	His	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly	Ser	Val	Glu			
			820					825					830					
Ile	Phe	Leu	Ser	Arg	His	Cys	Pro	Ile	Trp	Tyr	Gly	Tyr	Gly	Gly	Gly			
		835					840					845						
Leu	Lys	Trp	Leu	Glu	Arg	Phe	Ser	Tyr	Ile	Asn	Ser	Val	Val	Tyr	Pro			
	850					855					860							
Trp	Thr	Ser	Leu	Pro	Leu	Ile	Val	Tyr	Cys	Ser	Leu	Pro	Ala	Val	Cys			
865					870					875					880			
Leu	Leu	Thr	Gly	Lys	Phe	Ile	Val	Pro	Glu	Ile	Ser	Asn	Tyr	Ala	Gly			
				885					890					895				
Ile	Leu	Phe	Met	Leu	Met	Phe	Ile	Ser	Ile	Ala	Val	Thr	Gly	Ile	Leu			
			900					905					910					

Glu Met Gln Trp Gly Gly Val Gly Ile Asp Asp Trp Trp Arg Asn Glu
915 920 925

Gln Phe Trp Val Ile Gly Gly Ala Ser Ser His Leu Phe Ala Leu Phe
930 935 940

Gln Gly Leu Leu Lys Val Leu Ala Gly Val Asn Thr Asn Phe Thr Val
945 950 955 960

Thr Ser Lys Ala Ala Asp Asp Gly Ala Phe Ser Glu Leu Tyr Ile Phe
965 970 975

Lys Trp Thr Thr Leu Leu Ile Pro Pro Thr Thr Leu Leu Ile Ile Asn
980 985 990

Ile Ile Gly Val Ile Val Gly Val Ser Asp Ala Ile Ser Asn Gly Tyr
995 1000 1005

Asp Ser Trp Gly Pro Leu Phe Gly Arg Leu Phe Phe Ala Leu Trp Val
1010 1015 1020

Ile Val His Leu Tyr Pro Phe Leu Lys Gly Met Leu Gly Lys Gln Asp
1025 1030 1035 1040

Lys Met Pro Thr Ile Ile Val Val Trp Ser Ile Leu Leu Ala Ser Ile
1045 1050 1055

Leu Thr Leu Leu Trp Val Arg Val Asn Pro Phe Val Ala Lys Gly Gly
1060 1065 1070

Pro Val Leu Glu Ile Cys Gly Leu Asn Cys Gly Asn
1075 1080

<210> 25

<211> 685

<212> PRT

<213> Gossypium hirsutum

<400> 25

Arg Arg Trp Val Pro Phe Cys Lys Lys His Asn Val Glu Pro Arg Ala
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Pro Glu Phe Tyr Phe Asn Glu Lys Ile Asp Tyr Leu Lys Asp Lys Val
20 25 30

His Pro Ser Phe Val Lys Glu Arg Arg Ala Met Lys Arg Glu Tyr Glu
35 40 45

Glu Phe Lys Val Arg Ile Asn Ala Leu Val Ala Lys Ala Gln Lys Lys
50 55 60

Pro Glu Glu Gly Trp Val Met Gln Asp Gly Thr Pro Trp Pro Gly Asn
65 70 75 80

Asn Thr Arg Asp His Pro Gly Met Ile Gln Val Tyr Leu Gly Ser Ala
85 90 95

Gly Ala Leu Asp Val Asp Gly Lys Glu Leu Pro Arg Leu Val Tyr Val
100 105 110

Ser Arg Glu Lys Arg Pro Gly Tyr Gln His His Lys Lys Ala Gly Ala
 115 120 125
 Glu Asn Ala Leu Val Arg Val Ser Ala Val Leu Thr Asn Ala Pro Phe
 130 135 140
 Ile Leu Asn Leu Asp Cys Asp His Tyr Ile Asn Asn Ser Lys Ala Met
 145 150 155 160
 Arg Glu Ala Met Cys Phe Leu Met Asp Pro Gln Phe Gly Lys Lys Leu
 165 170 175
 Cys Tyr Val Gln Phe Pro Gln Arg Phe Asp Gly Ile Asp Arg His Asp
 180 185 190
 Arg Tyr Ala Asn Arg Asn Val Val Phe Phe Asp Ile Asn Met Leu Gly
 195 200 205
 Leu Asp Gly Leu Gln Gly Pro Val Tyr Val Gly Thr Gly Cys Val Phe
 210 215 220
 Asn Arg Gln Ala Leu Tyr Gly Tyr Asp Pro Pro Val Ser Glu Lys Arg
 225 230 235 240
 Pro Lys Met Thr Cys Asp Cys Trp Pro Ser Trp Cys Cys Cys Cys Cys
 245 250 255
 Gly Gly Ser Arg Lys Lys Ser Lys Lys Lys Gly Glu Lys Lys Gly Leu
 260 265 270
 Leu Gly Gly Leu Leu Tyr Gly Lys Lys Lys Lys Met Met Gly Lys Asn
 275 280 285
 Tyr Val Lys Lys Gly Ser Ala Pro Val Phe Asp Leu Glu Glu Ile Glu
 290 295 300
 Glu Gly Leu Glu Gly Tyr Glu Glu Leu Glu Lys Ser Thr Leu Met Ser
 305 310 315 320
 Gln Lys Asn Phe Glu Lys Arg Phe Gly Gln Ser Pro Val Phe Ile Ala
 325 330 335
 Ser Thr Leu Met Glu Asn Gly Gly Leu Pro Glu Gly Thr Asn Ser Thr
 340 345 350
 Ser Leu Ile Lys Glu Ala Ile His Val Ile Ser Cys Gly Tyr Glu Glu
 355 360 365
 Lys Thr Glu Trp Gly Lys Glu Ile Gly Trp Ile Tyr Gly Ser Val Thr
 370 375 380
 Glu Asp Ile Leu Thr Gly Phe Lys Met His Cys Arg Gly Trp Lys Ser
 385 390 395 400
 Val Tyr Cys Val Pro Lys Arg Pro Ala Phe Lys Gly Ser Ala Pro Ile
 405 410 415
 Asn Leu Ser Asp Arg Leu His Gln Val Leu Arg Trp Ala Leu Gly Ser
 420 425 430

Val Glu Ile Phe Leu Ser Arg His Cys Pro Leu Trp Tyr Gly Tyr Gly
 435 440 445
 Gly Lys Leu Lys Trp Leu Glu Arg Leu Ala Tyr Ile Asn Thr Ile Val
 450 455 460
 Tyr Pro Phe Thr Ser Ile Pro Leu Leu Ala Tyr Cys Thr Ile Pro Ala
 465 470 475 480
 Val Cys Leu Leu Thr Gly Lys Phe Ile Ile Pro Thr Leu Ser Asn Leu
 485 490 495
 Thr Ser Val Trp Phe Leu Ala Leu Phe Leu Ser Ile Ile Ala Thr Gly
 500 505 510
 Val Leu Glu Leu Arg Trp Ser Gly Val Ser Ile Gln Asp Trp Trp Arg
 515 520 525
 Asn Glu Gln Phe Trp Val Ile Gly Gly Val Ser Ala His Leu Phe Ala
 530 535 540
 Val Phe Gln Gly Leu Leu Lys Val Leu Ala Gly Val Asp Thr Asn Phe
 545 550 555 560
 Thr Val Thr Ala Lys Ala Ala Asp Asp Thr Glu Phe Gly Glu Leu Tyr
 565 570 575
 Leu Phe Lys Trp Thr Thr Leu Leu Ile Pro Pro Thr Thr Leu Ile Ile
 580 585 590
 Leu Asn Met Val Gly Val Val Ala Gly Val Ser Asp Ala Ile Asn Asn
 595 600 605
 Gly Tyr Gly Ser Trp Gly Pro Leu Phe Gly Lys Leu Phe Phe Ala Phe
 610 615 620
 Trp Val Ile Leu His Leu Tyr Pro Phe Leu Lys Gly Leu Met Gly Arg
 625 630 635 640
 Gln Asn Arg Thr Pro Thr Ile Val Val Leu Trp Ser Ile Leu Leu Ala
 645 650 655
 Ser Ile Phe Ser Leu Val Trp Val Arg Ile Asp Pro Phe Leu Pro Lys
 660 665 670
 Gln Thr Gly Pro Val Leu Lys Gln Cys Gly Val Glu Cys
 675 680 685
 <210> 26
 <211> 1111
 <212> PRT
 <213> Arabidopsis thaliana
 <400> 26
 Met Ala Ser Thr Pro Pro Gln Thr Ser Lys Lys Val Arg Asn Asn Ser
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 Gly Ser Gly Gln Thr Val Lys Phe Ala Arg Arg Thr Ser Ser Gly Arg
 20 25 30

Tyr Val Ser Leu Ser Arg Asp Asn Ile Glu Leu Ser Gly Glu Leu Ser
 35 40 45
 Gly Asp Tyr Ser Asn Tyr Thr Val His Ile Pro Pro Thr Pro Asp Asn
 50 55 60
 Gln Pro Met Ala Thr Lys Ala Glu Glu Gln Tyr Val Ser Asn Ser Leu
 65 70 75 80
 Phe Thr Gly Gly Phe Asn Ser Val Thr Arg Ala His Leu Met Asp Lys
 85 90 95
 Val Ile Asp Ser Asp Val Thr His Pro Gln Met Ala Gly Ala Lys Gly
 100 105 110
 Ser Ser Cys Ala Met Pro Ala Cys Asp Gly Asn Val Met Lys Asp Glu
 115 120 125
 Arg Gly Lys Asp Val Met Pro Cys Glu Cys Arg Phe Lys Ile Cys Arg
 130 135 140
 Asp Cys Phe Met Asp Ala Gln Lys Glu Thr Gly Leu Cys Pro Gly Cys
 145 150 155 160
 Lys Glu Gln Tyr Lys Ile Gly Asp Leu Asp Asp Asp Thr Pro Asp Tyr
 165 170 175
 Ser Ser Gly Ala Leu Pro Leu Pro Ala Pro Gly Lys Asp Gln Arg Gly
 180 185 190
 Asn Asn Asn Asn Met Ser Met Met Lys Arg Asn Gln Asn Gly Glu Phe
 195 200 205
 Asp His Asn Arg Trp Leu Phe Glu Thr Gln Gly Thr Tyr Gly Tyr Gly
 210 215 220
 Asn Ala Tyr Trp Pro Gln Asp Glu Met Tyr Gly Asp Asp Met Asp Glu
 225 230 235 240
 Gly Met Arg Gly Gly Met Val Glu Thr Ala Asp Lys Pro Trp Arg Pro
 245 250 255
 Leu Ser Arg Arg Ile Pro Ile Pro Ala Ala Ile Ile Ser Pro Tyr Arg
 260 265 270
 Leu Leu Ile Val Ile Arg Phe Val Val Leu Cys Phe Phe Leu Thr Trp
 275 280 285
 Arg Ile Arg Asn Pro Asn Glu Asp Ala Ile Trp Leu Trp Leu Met Ser
 290 295 300
 Ile Ile Cys Glu Leu Trp Phe Gly Phe Ser Trp Ile Leu Asp Gln Ile
 305 310 315 320
 Pro Lys Leu Cys Pro Ile Asn Arg Ser Thr Asp Leu Glu Val Leu Arg
 325 330 335
 Asp Lys Phe Asp Met Pro Ser Pro Ser Asn Pro Thr Gly Arg Ser Asp
 340 345 350

Leu Pro Gly Ile Asp Leu Phe Val Ser Thr Ala Asp Pro Glu Lys Glu
 355 360 365
 Pro Pro Leu Val Thr Ala Asn Thr Ile Leu Ser Ile Leu Ala Val Asp
 370 375 380
 Tyr Pro Val Glu Lys Val Ser Cys Tyr Leu Ser Asp Asp Gly Gly Ala
 385 390 395 400
 Leu Leu Ser Phe Glu Ala Met Ala Glu Ala Ala Ser Phe Ala Asp Leu
 405 410 415
 Trp Val Pro Phe Cys Arg Lys His Asn Ile Glu Pro Arg Asn Pro Asp
 420 425 430
 Ser Tyr Phe Ser Leu Lys Ile Asp Pro Thr Lys Asn Lys Ser Arg Ile
 435 440 445
 Asp Phe Val Lys Asp Arg Arg Lys Ile Lys Arg Glu Tyr Asp Glu Phe
 450 455 460
 Lys Val Arg Ile Asn Gly Leu Pro Asp Ser Ile Arg Arg Arg Ser Asp
 465 470 475 480
 Ala Phe Asn Ala Arg Glu Glu Met Lys Ala Leu Lys Gln Met Arg Glu
 485 490 495
 Ser Gly Gly Asp Pro Thr Glu Pro Val Lys Val Pro Lys Ala Thr Trp
 500 505 510
 Met Ala Asp Gly Thr His Trp Pro Gly Thr Trp Ala Ala Ser Thr Arg
 515 520 525
 Glu His Ser Lys Gly Asp His Ala Gly Ile Leu Gln Val Met Leu Lys
 530 535 540
 Pro Pro Ser Ser Asp Pro Leu Ile Gly Asn Ser Asp Asp Lys Val Ile
 545 550 555 560
 Asp Phe Ser Asp Thr Asp Thr Arg Leu Pro Met Phe Val Tyr Val Ser
 565 570 575
 Arg Glu Lys Arg Pro Gly Tyr Asp His Asn Lys Lys Ala Gly Ala Met
 580 585 590
 Asn Ala Leu Val Arg Ala Ser Ala Ile Leu Ser Asn Gly Pro Phe Ile
 595 600 605
 Leu Asn Leu Asp Cys Asp His Tyr Ile Tyr Asn Cys Lys Ala Val Arg
 610 615 620
 Glu Gly Met Cys Phe Met Met Asp Arg Gly Gly Glu Asp Ile Cys Tyr
 625 630 635 640
 Ile Gln Phe Pro Gln Arg Phe Glu Gly Ile Asp Pro Ser Asp Arg Tyr
 645 650 655
 Ala Asn Asn Asn Thr Val Phe Phe Asp Gly Asn Met Arg Ala Leu Asp
 660 665 670

Gly Val Gln Gly Pro Val Tyr Val Gly Thr Gly Thr Met Phe Arg Arg
 675 680 685
 Phe Ala Leu Tyr Gly Phe Asp Pro Pro Asn Pro Asp Lys Leu Leu Glu
 690 695 700
 Lys Lys Glu Ser Glu Thr Glu Ala Leu Thr Thr Ser Asp Phe Asp Pro
 705 710 715 720
 Asp Leu Asp Val Thr Gln Leu Pro Lys Arg Phe Gly Asn Ser Thr Leu
 725 730 735
 Leu Ala Glu Ser Ile Pro Ile Ala Glu Phe Gln Gly Arg Pro Leu Ala
 740 745 750
 Asp His Pro Ala Val Lys Tyr Gly Arg Pro Pro Gly Ala Leu Arg Val
 755 760 765
 Pro Arg Asp Pro Leu Asp Ala Thr Thr Val Ala Glu Ser Val Ser Val
 770 775 780
 Ile Ser Cys Trp Tyr Glu Asp Lys Thr Glu Trp Gly Asp Arg Val Gly
 785 790 795 800
 Trp Ile Tyr Gly Ser Val Thr Glu Asp Val Val Thr Gly Tyr Arg Met
 805 810 815
 His Asn Arg Gly Trp Arg Ser Val Tyr Cys Ile Thr Lys Arg Asp Ser
 820 825 830
 Phe Arg Gly Ser Ala Pro Ile Asn Leu Thr Asp Arg Leu His Gln Val
 835 840 845
 Leu Arg Trp Ala Thr Gly Ser Val Glu Ile Phe Phe Ser Arg Asn Asn
 850 855 860
 Ala Ile Leu Ala Ser Lys Arg Leu Lys Phe Leu Gln Arg Leu Ala Tyr
 865 870 875 880
 Leu Asn Val Gly Ile Tyr Pro Phe Thr Ser Leu Phe Leu Ile Leu Tyr
 885 890 895
 Cys Phe Leu Pro Ala Phe Ser Leu Phe Ser Gly Gln Phe Ile Val Arg
 900 905 910
 Thr Leu Ser Ile Ser Phe Leu Val Tyr Leu Leu Met Ile Thr Ile Cys
 915 920 925
 Leu Ile Gly Leu Ala Val Leu Glu Val Lys Trp Ser Gly Ile Gly Leu
 930 935 940
 Glu Glu Trp Trp Arg Asn Glu Gln Trp Trp Leu Ile Ser Gly Thr Ser
 945 950 955 960
 Ser His Leu Tyr Ala Val Val Gln Gly Val Leu Lys Val Ile Ala Gly
 965 970 975
 Ile Glu Ile Ser Phe Thr Leu Thr Thr Lys Ser Gly Gly Asp Asp Asn
 980 985 990

Glu Asp Ile Tyr Ala Asp Leu Tyr Ile Val Lys Trp Ser Ser Leu Met
 995 1000 1005
 Ile Pro Pro Ile Val Ile Ala Met Val Asn Ile Ile Ala Ile Val Val
 1010 1015 1020
 Ala Phe Ile Arg Thr Ile Tyr Gln Ala Val Pro Gln Trp Ser Lys Leu
 1025 1030 1035 1040
 Ile Gly Gly Ala Phe Phe Ser Phe Trp Val Leu Ala His Leu Tyr Pro
 1045 1050 1055
 Phe Ala Lys Gly Leu Met Gly Arg Arg Gly Lys Thr Pro Thr Ile Val
 1060 1065 1070
 Phe Val Trp Ala Gly Leu Ile Ala Ile Thr Ile Ser Leu Leu Trp Thr
 1075 1080 1085
 Ala Ile Asn Pro Asn Thr Gly Pro Ala Ala Ala Ala Glu Gly Val Gly
 1090 1095 1100
 Gly Gly Gly Phe Gln Phe Pro
 1105 1110
 <210> 27
 <211> 1026
 <212> PRT
 <213> Arabidopsis thaliana
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 Leu Val Val Ile His Asn His Glu Glu Pro Lys Pro Leu Lys Asn Leu
 20 25 30
 Asp Gly Gln Phe Cys Glu Ile Cys Gly Asp Gln Ile Gly Leu Thr Val
 35 40 45
 Glu Gly Asp Leu Phe Val Ala Cys Asn Glu Cys Gly Phe Pro Ala Cys
 50 55 60
 Arg Pro Cys Tyr Glu Tyr Glu Arg Arg Glu Gly Thr Gln Asn Cys Pro
 65 70 75 80
 Gln Cys Lys Thr Arg Tyr Lys Arg Leu Arg Gly Ser Pro Arg Val Glu
 85 90 95
 Gly Asp Glu Asp Glu Glu Asp Ile Asp Asp Ile Glu Tyr Glu Phe Asn
 100 105 110
 Ile Glu His Glu Gln Asp Lys His Lys His Ser Ala Glu Ala Met Leu
 115 120 125
 Tyr Gly Lys Met Ser Tyr Gly Arg Gly Pro Glu Asp Asp Glu Asn Gly
 130 135 140
 Arg Phe Pro Pro Val Ile Ala Gly Gly His Ser Gly Glu Phe Pro Val
 145 150 155 160

Gly Gly Gly Tyr Gly Asn Gly Glu His Gly Leu His Lys Arg Val His
 165 170 175
 Pro Tyr Pro Ser Ser Glu Ala Gly Ser Glu Gly Gly Trp Arg Glu Arg
 180 185 190
 Met Asp Asp Trp Lys Leu Gln His Gly Asn Leu Gly Pro Glu Pro Asp
 195 200 205
 Asp Asp Pro Glu Met Gly Leu Ile Asp Glu Ala Arg Gln Pro Leu Ser
 210 215 220
 Arg Lys Val Pro Ile Ala Ser Ser Lys Ile Asn Pro Tyr Arg Met Val
 225 230 235 240
 Ile Val Ala Arg Leu Val Ile Leu Ala Val Phe Leu Arg Tyr Arg Leu
 245 250 255
 Leu Asn Pro Val His Asp Ala Leu Gly Leu Trp Leu Thr Ser Val Ile
 260 265 270
 Cys Glu Ile Trp Phe Ala Val Ser Trp Ile Leu Asp Gln Phe Pro Lys
 275 280 285
 Trp Phe Pro Ile Glu Arg Glu Thr Tyr Leu Asp Arg Leu Ser Leu Arg
 290 295 300
 Tyr Glu Arg Glu Gly Glu Pro Asn Met Leu Ala Pro Val Asp Val Phe
 305 310 315 320
 Val Ser Thr Val Asp Pro Leu Lys Glu Pro Pro Leu Val Thr Ser Asn
 325 330 335
 Thr Val Leu Ser Ile Leu Ala Met Asp Tyr Pro Val Glu Lys Ile Ser
 340 345 350
 Cys Tyr Val Ser Asp Asp Gly Ala Ser Met Leu Thr Phe Glu Ser Leu
 355 360 365
 Ser Glu Thr Ala Glu Phe Ala Arg Lys Trp Val Pro Phe Cys Lys Lys
 370 375 380
 Phe Ser Ile Glu Pro Arg Ala Pro Glu Met Tyr Phe Thr Leu Lys Val
 385 390 395 400
 Asp Tyr Leu Gln Asp Lys Val His Pro Thr Phe Val Lys Glu Arg Arg
 405 410 415
 Ala Met Lys Arg Glu Tyr Glu Glu Phe Lys Val Arg Ile Asn Ala Gln
 420 425 430
 Val Ala Lys Ala Ser Lys Val Pro Leu Glu Gly Trp Ile Met Gln Asp
 435 440 445
 Gly Thr Pro Trp Pro Gly Asn Asn Thr Lys Asp His Pro Gly Met Ile
 450 455 460
 Gln Val Phe Leu Gly His Ser Gly Gly Phe Asp Val Glu Gly His Glu
 465 470 475 480

Leu	Pro	Arg	Leu	Val	Tyr	Val	Ser	Arg	Glu	Lys	Arg	Pro	Gly	Phe	Gln
			485						490					495	
His	His	Lys	Lys	Ala	Gly	Ala	Met	Asn	Ala	Leu	Val	Arg	Val	Ala	Gly
			500					505					510		
Val	Leu	Thr	Asn	Ala	Pro	Phe	Met	Leu	Asn	Leu	Asp	Cys	Asp	His	Tyr
		515					520					525			
Val	Asn	Asn	Ser	Lys	Ala	Val	Arg	Glu	Ala	Met	Cys	Phe	Leu	Met	Asp
	530					535					540				
Pro	Gln	Ile	Gly	Lys	Lys	Val	Cys	Tyr	Val	Gln	Phe	Pro	Gln	Arg	Phe
545					550					555					560
Asp	Gly	Ile	Asp	Thr	Asn	Asp	Arg	Tyr	Ala	Asn	Arg	Asn	Thr	Val	Phe
				565					570					575	
Phe	Asp	Ile	Asn	Met	Lys	Gly	Leu	Asp	Gly	Ile	Gln	Gly	Pro	Val	Tyr
			580					585					590		
Val	Gly	Thr	Gly	Cys	Val	Phe	Lys	Arg	Gln	Ala	Leu	Tyr	Gly	Tyr	Glu
		595					600					605			
Pro	Pro	Lys	Gly	Pro	Lys	Arg	Pro	Lys	Met	Ile	Ser	Cys	Gly	Cys	Cys
	610					615					620				
Pro	Cys	Phe	Gly	Arg	Arg	Arg	Lys	Asn	Lys	Lys	Phe	Ser	Lys	Asn	Asp
625					630				635						640
Met	Asn	Gly	Asp	Val	Ala	Ala	Leu	Gly	Gly	Ala	Glu	Gly	Asp	Lys	Glu
				645					650					655	
His	Leu	Met	Phe	Glu	Met	Asn	Phe	Glu	Lys	Thr	Phe	Gly	Gln	Ser	Ser
			660					665					670		
Ile	Phe	Val	Thr	Ser	Thr	Leu	Met	Glu	Glu	Gly	Gly	Val	Pro	Pro	Ser
		675					680					685			
Ser	Ser	Pro	Ala	Val	Leu	Leu	Lys	Glu	Ala	Ile	His	Val	Ile	Ser	Cys
	690					695					700				
Gly	Tyr	Glu	Asp	Lys	Thr	Glu	Trp	Gly	Thr	Glu	Leu	Gly	Trp	Ile	Tyr
705					710					715					720
Gly	Ser	Ile	Thr	Glu	Asp	Ile	Leu	Thr	Gly	Phe	Lys	Met	His	Cys	Arg
				725					730					735	
Gly	Trp	Arg	Ser	Ile	Tyr	Cys	Met	Pro	Lys	Arg	Pro	Ala	Phe	Lys	Gly
			740					745					750		
Ser	Ala	Pro	Ile	Asn	Leu	Ser	Asp	Arg	Leu	Asn	Gln	Val	Leu	Arg	Trp
		755					760					765			
Ala	Leu	Gly	Ser	Val	Glu	Ile	Phe	Phe	Ser	Arg	His	Ser	Pro	Leu	Trp
	770					775					780				
Tyr	Gly	Tyr	Lys	Gly	Gly	Lys	Leu	Lys	Trp	Leu	Glu	Arg	Phe	Ala	Tyr
785					790					795					800

Ala Asn Thr Thr Ile Tyr Pro Phe Thr Ser Ile Pro Leu Leu Ala Tyr
805 810 815

Cys Ile Leu Pro Ala Ile Cys Leu Leu Thr Asp Lys Phe Ile Met Pro
820 825 830

Pro Ile Ser Thr Phe Ala Ser Leu Phe Phe Ile Ser Leu Phe Met Ser
835 840 845

Ile Ile Val Thr Gly Ile Leu Glu Leu Arg Trp Ser Gly Val Ser Ile
850 855 860

Glu Glu Trp Trp Arg Asn Glu Gln Phe Trp Val Ile Gly Gly Ile Ser
865 870 875 880

Ala His Leu Phe Ala Val Val Gln Gly Leu Leu Lys Ile Leu Ala Gly
885 890 895

Ile Asp Thr Asn Phe Thr Val Thr Ser Lys Ala Thr Asp Asp Asp Asp
900 905 910

Phe Gly Glu Leu Tyr Ala Phe Lys Trp Thr Thr Leu Leu Ile Pro Pro
915 920 925

Thr Thr Val Leu Ile Ile Asn Ile Val Gly Val Val Ala Gly Ile Ser
930 935 940

Asp Ala Ile Asn Asn Gly Tyr Gln Ser Trp Gly Pro Leu Phe Gly Lys
945 950 955 960

Leu Phe Phe Ser Phe Trp Val Ile Val His Leu Tyr Pro Phe Leu Lys
965 970 975

Gly Leu Met Gly Arg Gln Asn Arg Thr Pro Thr Ile Val Val Ile Trp
980 985 990

Ser Val Leu Leu Ala Ser Ile Phe Ser Leu Leu Trp Val Arg Ile Asp
995 1000 1005

Pro Phe Val Leu Lys Thr Lys Gly Pro Asp Thr Ser Lys Cys Gly Ile
1010 1015 1020

Asn Cys
1025

<210> 28
<211> 701
<212> PRT
<213> Gossypium hirsutum

<400> 28

Asp Tyr Pro Val Glu Lys Val Ser Cys Tyr Val Ser Asp Asp Gly Ala
1 5 10 15

Ala Met Leu Thr Phe Glu Ala Leu Ser Glu Thr Ser Glu Phe Ala Arg
20 25 30

Lys Trp Val Pro Phe Cys Lys Lys Tyr Asn Ile Glu Pro Arg Ala Pro
35 40 45

52

Leu Leu Lys Glu Ala Ile His Val Ile Ser Cys Gly Tyr Glu Asp Lys
 370 375 380
 Thr Asp Trp Gly Ser Glu Ile Gly Trp Ile Tyr Gly Ser Val Thr Glu
 385 390 395 400
 Asp Ile Leu Thr Gly Phe Lys Met His Ala Arg Gly Trp Arg Ser Ile
 405 410 415
 Tyr Cys Met Pro Lys Arg Pro Ala Phe Lys Gly Ser Ala Pro Ile Asn
 420 425 430
 Leu Ser Asp Arg Leu Asn Gln Val Leu Arg Trp Ala Leu Gly Ser Val
 435 440 445
 Glu Ile Leu Phe Ser Arg His Cys Pro Ile Trp Tyr Gly Tyr Ser Gly
 450 455 460
 Arg Leu Lys Trp Leu Glu Arg Phe Ala Tyr Val Asn Thr Thr Ile Tyr
 465 470 475 480
 Pro Val Thr Ala Ile Pro Leu Leu Met Tyr Cys Thr Leu Pro Ala Val
 485 490 495
 Cys Leu Leu Thr Asn Lys Phe Ile Ile Pro Gln Ile Ser Asn Leu Ala
 500 505 510
 Ser Ile Trp Phe Ile Ser Leu Phe Leu Ser Ile Phe Ala Thr Gly Ile
 515 520 525
 Leu Lys Met Lys Trp Asn Gly Val Gly Ile Asp Gln Trp Trp Arg Asn
 530 535 540
 Glu Gln Phe Trp Val Ile Gly Gly Val Ser Ala His Leu Phe Ala Val
 545 550 555 560
 Phe Gln Gly Leu Leu Lys Val Leu Ala Gly Ile Asp Thr Asn Phe Thr
 565 570 575
 Val Thr Ser Lys Ala Ser Asp Glu Asp Gly Asp Phe Ala Glu Leu Tyr
 580 585 590
 Met Phe Lys Trp Thr Thr Leu Leu Ile Pro Pro Thr Thr Leu Leu Ile
 595 600 605
 Ile Asn Leu Val Gly Val Val Ala Gly Ile Ser Tyr Val Ile Asn Ser
 610 615 620
 Gly Tyr Gln Ser Trp Gly Pro Leu Phe Gly Lys Leu Phe Phe Ala Phe
 625 630 635 640
 Trp Val Ile Ile His Leu Tyr Pro Phe Leu Lys Gly Leu Met Gly Arg
 645 650 655
 Gln Asn Arg Thr Pro Thr Ile Val Val Val Trp Ser Ile Leu Leu Ala
 660 665 670
 Ser Ile Phe Ser Leu Leu Trp Val Arg Ile Asp Pro Phe Thr Thr Arg
 675 680 685

Val Thr Gly Pro Asp Val Glu Gln Cys Gly Ile Asn Cys
 690 695 700

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 <211> 1081
 <212> PRT
 <213> Arabidopsis thaliana

<400> 29

Arg Pro Arg Leu Ile Ala Gly Ser His Asn Arg Asn Glu Phe Val Leu
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 Ile Asn Ala Asp Glu Asn Ala Arg Ile Arg Ser Val Gln Glu Leu Ser
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 Gly Gln Thr Cys Gln Ile Cys Arg Asp Glu Ile Glu Leu Thr Val Asp
 35 40 45
 Gly Glu Pro Phe Val Ala Cys Asn Glu Cys Ala Phe Pro Val Cys Arg
 50 55 60
 Pro Cys Tyr Glu Tyr Glu Arg Arg Glu Gly Asn Gln Ala Cys Pro Gln
 65 70 75 80
 Cys Lys Thr Arg Phe Lys Arg Leu Lys Gly Ser Pro Arg Val Glu Gly
 85 90 95
 Asp Glu Glu Glu Asp Asp Ile Asp Asp Leu Asp Asn Glu Phe Glu Tyr
 100 105 110
 Gly Asn Asn Gly Ile Gly Phe Asp Gln Val Ser Glu Gly Met Ser Ile
 115 120 125
 Ser Arg Arg Asn Ser Gly Phe Pro Gln Ser Asp Leu Asp Ser Ala Pro
 130 135 140
 Pro Gly Ser Gln Ile Pro Leu Leu Thr Tyr Gly Asp Glu Asp Val Glu
 145 150 155 160
 Ile Ser Ser Asp Arg His Ala Leu Ile Val Pro Pro Ser Leu Gly Gly
 165 170 175
 His Gly Asn Arg Val His Pro Val Ser Leu Ser Asp Pro Thr Val Ala
 180 185 190
 Ala His Arg Arg Leu Met Val Pro Gln Lys Asp Leu Ala Val Tyr Gly
 195 200 205
 Tyr Gly Ser Val Ala Trp Lys Asp Arg Met Glu Glu Trp Lys Arg Lys
 210 215 220
 Gln Asn Glu Lys Leu Gln Val Val Arg His Glu Gly Asp Pro Asp Phe
 225 230 235 240
 Glu Asp Gly Asp Asp Ala Asp Phe Pro Met Met Asp Glu Gly Arg Gln
 245 250 255
 Pro Leu Ser Met Lys Ile Pro Ile Lys Ser Ser Lys Ile Asn Pro Tyr
 260 265 270

Arg Met Leu Ile Val Leu Arg Leu Val Ile Leu Gly Leu Phe Phe His
 275 280 285
 Tyr Arg Ile Leu His Pro Val Lys Asp Ala Tyr Ala Leu Trp Leu Ile
 290 295 300
 Ser Val Ile Cys Glu Ile Trp Phe Ala Val Ser Trp Val Leu Asp Gln
 305 310 315 320
 Phe Pro Lys Trp Tyr Pro Ile Glu Arg Glu Thr Tyr Leu Asp Arg Leu
 325 330 335
 Ser Leu Arg Tyr Glu Lys Glu Gly Lys Pro Ser Gly Leu Ser Pro Val
 340 345 350
 Asp Val Phe Val Ser Thr Val Asp Pro Leu Lys Glu Pro Pro Leu Ile
 355 360 365
 Thr Ala Asn Thr Val Leu Ser Ile Leu Ala Val Asp Tyr Pro Val Asp
 370 375 380
 Lys Val Ala Cys Tyr Val Ser Asp Asp Gly Ala Ala Met Leu Thr Phe
 385 390 395 400
 Glu Ala Leu Ser Glu Thr Ala Glu Phe Ala Arg Lys Trp Val Pro Phe
 405 410 415
 Cys Lys Lys Tyr Cys Ile Glu Pro Arg Ala Pro Glu Trp Tyr Phe Cys
 420 425 430
 His Lys Met Asp Tyr Leu Lys Asn Lys Val His Pro Ala Phe Val Arg
 435 440 445
 Glu Arg Arg Ala Met Lys Arg Asp Tyr Glu Glu Phe Lys Val Lys Ile
 450 455 460
 Asn Ala Leu Val Ala Thr Ala Gln Lys Val Pro Glu Asp Gly Trp Thr
 465 470 475 480
 Met Gln Asp Gly Thr Pro Trp Pro Gly Asn Ser Val Arg Asp His Pro
 485 490 495
 Gly Met Ile Gln Val Phe Leu Gly Ser Asp Gly Val Arg Asp Val Glu
 500 505 510
 Asn Asn Glu Leu Pro Arg Leu Val Tyr Val Ser Arg Glu Lys Arg Pro
 515 520 525
 Gly Phe Asp His His Lys Lys Ala Gly Ala Met Asn Ser Leu Ile Arg
 530 535 540
 Val Ser Gly Val Leu Ser Asn Ala Pro Tyr Leu Leu Asn Val Asp Cys
 545 550 555 560
 Asp His Tyr Ile Asn Asn Ser Lys Ala Leu Arg Glu Ala Met Cys Phe
 565 570 575
 Met Met Asp Pro Gln Ser Gly Lys Lys Ile Cys Tyr Val Gln Phe Pro
 580 585 590

Gln Arg Phe Asp Gly Ile Asp Arg His Asp Arg Tyr Ser Asn Arg Asn
 595 600 605
 Val Val Phe Phe Asp Ile Asn Met Lys Gly Leu Asp Gly Leu Gln Gly
 610 615 620
 Pro Ile Tyr Val Gly Thr Gly Cys Val Phe Arg Arg Gln Ala Leu Tyr
 625 630 635 640
 Gly Phe Asp Ala Pro Lys Lys Lys Lys Gly Pro Arg Lys Thr Cys Asn
 645 650 655
 Cys Trp Pro Lys Trp Cys Leu Leu Cys Phe Gly Ser Arg Lys Asn Arg
 660 665 670
 Lys Ala Lys Thr Val Ala Ala Asp Lys Lys Lys Lys Asn Arg Glu Ala
 675 680 685
 Ser Lys Gln Ile His Ala Leu Glu Asn Ile Glu Glu Gly Arg Gly His
 690 695 700
 Lys Val Leu Asn Val Glu Gln Ser Thr Glu Ala Met Gln Met Lys Leu
 705 710 715 720
 Gln Lys Lys Tyr Gly Gln Ser Pro Val Phe Val Ala Ser Ala Arg Leu
 725 730 735
 Glu Asn Gly Gly Met Ala Arg Asn Ala Ser Pro Ala Cys Leu Leu Lys
 740 745 750
 Glu Ala Ile Gln Val Ile Ser Arg Gly Tyr Glu Asp Lys Thr Glu Trp
 755 760 765
 Gly Lys Glu Ile Gly Trp Ile Tyr Gly Ser Val Thr Glu Asp Ile Leu
 770 775 780
 Thr Gly Ser Lys Met His Ser His Gly Trp Arg His Val Tyr Cys Thr
 785 790 795 800
 Pro Lys Leu Ala Ala Phe Lys Gly Ser Ala Pro Ile Asn Leu Ser Asp
 805 810 815
 Arg Leu His Gln Val Leu Arg Trp Ala Leu Gly Ser Val Glu Ile Phe
 820 825 830
 Leu Ser Arg His Cys Pro Ile Trp Tyr Gly Tyr Gly Gly Gly Leu Lys
 835 840 845
 Trp Leu Glu Arg Leu Ser Tyr Ile Asn Ser Val Val Tyr Pro Trp Thr
 850 855 860
 Ser Leu Pro Leu Ile Val Tyr Cys Ser Leu Pro Ala Ile Cys Leu Leu
 865 870 875 880
 Thr Gly Lys Phe Ile Val Pro Glu Ile Ser Asn Tyr Ala Ser Ile Leu
 885 890 895
 Phe Met Ala Leu Phe Ser Ser Ile Ala Ile Thr Gly Ile Leu Glu Met
 900 905 910

Gln Trp Gly Lys Val Gly Ile Asp Asp Trp Trp Arg Asn Glu Gln Phe
 915 920 925
 Trp Val Ile Gly Gly Val Ser Ala His Leu Phe Ala Leu Phe Gln Gly
 930 935 940
 Leu Leu Lys Val Leu Ala Gly Val Asp Thr Asn Phe Thr Val Thr Ser
 945 950 955 960
 Lys Ala Ala Asp Asp Gly Glu Phe Ser Asp Leu Tyr Leu Phe Lys Trp
 965 970 975
 Thr Ser Leu Leu Ile Pro Pro Met Thr Leu Leu Ile Ile Asn Val Ile
 980 985 990
 Gly Val Ile Val Gly Val Ser Asp Ala Ile Ser Asn Gly Tyr Asp Ser
 995 1000 1005
 Trp Gly Pro Leu Phe Gly Arg Leu Phe Phe Ala Leu Trp Val Ile Ile
 1010 1015 1020
 His Leu Tyr Pro Phe Leu Lys Gly Leu Leu Gly Lys Gln Asp Arg Met
 1025 1030 1035 1040
 Pro Thr Ile Ile Val Val Trp Ser Ile Leu Leu Ala Ser Ile Leu Thr
 1045 1050 1055
 Leu Leu Trp Val Arg Val Asn Pro Phe Val Ala Lys Gly Gly Pro Ile
 1060 1065 1070
 Leu Glu Ile Cys Gly Leu Asp Cys Leu
 1075 1080